

## REMARKS

Claims 1-30 were examined. Claims 1-2, 7, 11, 20 and 27 are amended. No claims have been cancelled or added. Accordingly, claims 1-30 are presented for examination. Applicants respectfully request the Examiner's reconsideration of the present application in view of the above amendments and the following remarks.

### Claim Rejections Under 35 U.S.C. § 112

Claims 27-30 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicants respectfully disagree with the rejections.

According to the Office Action mailed on March 3, 2006, the claims limitations recited in claims 27-30 are contrary to the specification. Particularly, the Examiner asserts that the limitation "a plurality of firmware drivers written in a type-safe intermediate language are stored in a flash device" is not described in the specification. Applicants direct the Examiner's attention to paragraphs [0042] – [0048] where a build process of an EFI driver according to an embodiment of the invention is described. In these paragraphs, source code such as C and C++ are compiled either in an intermediate language (308), native code (312), or optimized intermediate language (318). These compiled codes are linked through linker 314 to be stored with an .EFI extension so as to be recognized by DXE dispatcher 102. See paragraph [0047]. Therefore, when a DXE dispatcher loads an EFI driver, the driver can either be an intermediate language 308, native code 312, or optimized intermediate language 318. Furthermore, because the firmware as recited in claim 27 including a plurality of firmware drivers (e.g., EFI drivers), the firmware drivers may be a combination of drivers written in intermediate language or native instructions. These descriptions are also shown in Figure 3.

With respect to Figure 5, Applicants respectfully submit that it is merely an example of one implementation for caching native managed code to a persistent store. See paragraph [0056], lines 3 and 4. Therefore, Figure 5 is not illustrated to limit the claim language to only storing native managed code. Applicants respectfully submit that the specification as filed is consistent with the claim language as recited in claim 27.

The Examiner further asserts that the limitation "a flash device ... comprising a virtual processor to be hosted by the system processor" is contrary to the specification. Applicants respectfully disagree with this assertion. Applicants direct the Examiner's attention to paragraph

[0033] of the specification as filed. In this paragraph, a type safe intermediate language and corresponding execution infrastructure in combination with a modified EFI-based loading scheme is disclosed. It is further described that the intermediate language is written to run on the Common Language Infrastructure (CLI). Paragraph [0036] describes that the Common Language Infrastructure provides a specification for executable code and the execution environment in which it runs.

An example is described in paragraph [0052] that an intermediate language (IL) interpreter 320 must be loaded prior to interpreting an IL-encoded .EFI image. Therefore, the specification clearly describes that a flash driver comprising a virtual processor. The Examiner may have misinterpreted the second “comprising” in claim 27 to refer to the “native instructions.” Claim 27 has been amended to recite “a flash device on which firmware is stored, said firmware including a plurality of firmware drivers written in a type-safe intermediate language and native instructions, the flash device further including a virtual processor to be hosted by the system processor, said virtual processor to process the plurality of firmware drivers during a pre-boot phase for the computer system.” Applicants respectfully submit that the virtual processor is included in the flash device, therefore, in platform firmware, rather than the native instructions, as the Examiner has interpreted. Therefore, claim 27 complies with the written description requirement under 35 U.S.C. § 112.

Claims 28-30 depend from claim 27 and therefore incorporate the limitations of that claim. For at least the reasons stated above, claims 28-30 comply with the written description requirement under 35 U.S.C. §112. Therefore, reconsideration and withdrawal of the rejections are respectfully requested.

### **Claim Rejections under 35 U.S.C. § 103**

Claims 1-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the article “Malicious Code Detection for Open Firmware,” by Adelstein et al. (“*Adelstein*”). Applicants respectfully disagree with these rejections. To establish a *prima facie* case of obviousness, the Examiner must show the cited references, combined, teach or suggest each of the elements of a claim.

Among other limitations, claims 1 and 11, as amended, recites “processing a type-safe platform-independent firmware component during a pre-boot phase of a computer platform, the type-safe platform independent firmware component is processed using an intermediate language (IL) interpreter for IL; and processing the type-safe platform-independent firmware component

during an operating system- (OS)-runtime phase, the type-safe platform independent firmware component is processed using a Just-in-Time (JIT) compiler for the IL.” *Adelstein* does not teach or suggest these limitations.

According to the Examiner, *Adelstein* discloses these limitations in section 5.2.1. Section 5.2.1 discloses using Javas language-based mechanism to protect against malicious applets. A java compiler produces platform-independent virtual machine instructions or bytecode that can be verified by the consumer before execution. The bytecode is either interpreted by a Java virtual machine (VM) or further compiled down to native code. However, *Adelstein* does not identify whether the interpreted or the compiled process disclosed herein pertains to a “pre-boot phase” or an “operating system (OS) runtime phase.” Because *Adelstein* fails to identify a “pre-boot phase” and an “operating system (OS) runtime phase” with respect to using an interpreter and a compiler, *Adelstein* does not teach or suggest the limitations of claims 1 and 11.

Dependent claims 2-10 and 12-19 depend from claims 1 and 11 and therefore incorporate the limitations of these claims. For at least the reasons stated above, claims 2-10 and 12-19 are patentable over *Adelstein*.

Among other limitations, claim 20 recites “loading a type-safe processor-neutral firmware module into a pre-boot environment; loading the type-safe processor-neutral firmware module into an operating system runtime environment.” *Adelstein* does not teach or suggest these limitations.

Similar to discussion with respect to claims 1 and 11, because *Adelstein* does not identify a pre-boot phase and an operating system phase, *Adelstein* does not teach or suggest that the type-safe processor-neutral firmware module is loaded in a pre-boot phase and in an operating system runtime phase. Because *Adelstein* does not disclose these limitations, *Adelstein* does not teach or suggest the limitations of claim 20.

Dependent claims 21-26 depend from claim 20 and therefore incorporate the limitations of that claim. For at least the reasons stated above, claims 21-26 are patentable over *Adelstein*.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 1-26 under 35. U.S.C. § 103(a).

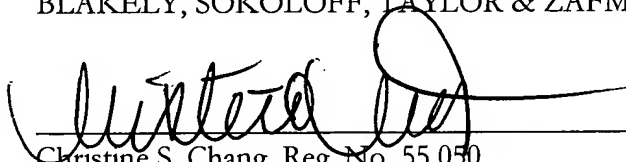
## CONCLUSION

In view of the forgoing, it is believed that all claims now pending are in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666. Questions regarding this matter should be directed to the undersigned at (310) 207-3800.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

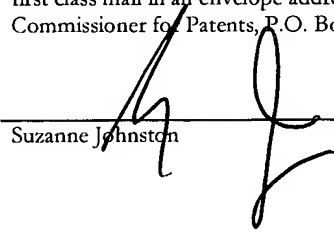
Date: June 5, 2006

  
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### CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

  
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Suzanne Johnston

June 5, 2006  
DATE